



PRODUCT COM #563
April 17, 2009

TO: Field Sales, Wausau Motor Marketing, Motor Representatives, Application Engineering,
Warranty Service, Distributor and OEM Customer Service, HVAC/R Sales Team

FROM: Jeff Casey

SUBJECT: **Belting Data Analysis for Roller Bearing Designs**

In our ongoing quest to provide our customers the highest possible value in electric motors, this announcement reinforces previous communications regarding Marathon's belting data analysis service. At the time of motor quotation and/or order entry, customers are requested to provide belting data to evaluate and optimize bearing life (measured in terms of "B-10" hours). This free service accomplishes several things:

1. Ensures warranty coverage, assuming the application is belted per approved guidelines,
2. Enhances bearing life, resulting in long, trouble-free operation in critical applications,
3. Reduces safety risk, as incorrect installation procedures put workers and bystanders at risk.
4. Educates our customers on the risks and costs of incorrect belting, reinforcing Marathon's position as a technology leader.

As you know, there are a number of standard stock (catalog) models that utilize roller bearings. These models are designed to operate successfully in general purpose applications when belted per NEMA guidelines. Use of these motors under unique belting arrangements must be evaluated to ensure trouble-free operation. The same logic applies to minor variations of these designs and custom-built models, regardless of frame size (don't assume roller bearings are a feature unique to large integral motors). As such, it is critical that you obtain and communicate belting data to Marathon Engineering by use of Form 4228-R3 (attached). In addition, use SB528, "Motor Guidelines for Belted Applications" to educate customers on belted applications. Both of these are available on Marathon's website www.marathonelectric.com. Additionally, even if belting data is provided at time of order and is approved by Marathon Electric, the ultimate responsibility for proper installation and maintenance rests with the end customer. **Failure to do so could lead to motor shaft failure that could cause significant damage to the motor and injury or death to bystanders, and would be deemed as non-warranty by Marathon Electric.**

If belting data is not supplied to Marathon Electric at time of order, Marathon Electric will build the motor(s) according to its standard design, and will note the lack of belting data from the customer in the design notes. If the belting data was not provided at time of order and the motor fails due to bearing- or shaft-related failures that are attributed to incorrect belting practices, Marathon Electric will deem the failure as non-warranty.

This information will be prominently documented in the upcoming SB300 Product Catalog, currently scheduled for publication in June. Additionally, we will include appropriate verbiage in the comment section of our quotations. An actual copy of the policy is attached for your information.



For all build-up (non-stock) motors with roller bearings:

As a value-added, **no charge service** Marathon Electric engineering will calculate the safe loading of all belted applications for our customers who purchase build-up motors that have roller bearings specified. This service is being offered to our customers to help them apply these motors in a safe manner and ensure long life in their belted applications.

In order to verify the expected bearing life (B-10 life) and motor shaft safety factor in belted applications, complete belting data should be provided at time of order. This information will also be requested when a request for quote is received for a build-up motor that has roller bearings. The belting data should be provided via Marathon Electric form **#4228-R3**, as found on our website at: www.marathonelectric.com.

If belting data is not supplied to Marathon Electric at time of order, Marathon Electric will build the motor(s) according to its standard design, and will note the lack of belting data from the customer in the design notes. If the belting data was not provided at time of order and the motor fails due to bearing- or shaft-related failures that are attributed to incorrect belting practices, Marathon Electric will deem the failure as non-warranty.

Additionally, even if belting data is provided at time of order and is approved by Marathon Electric it is the end customer's ultimate responsibility to install and maintain the motor according to NEMA guidelines, and/or as described in Marathon Electric publication SB528: Motor Guidelines for Belted Applications, which can also be found on our website. **Failure to do so could lead to motor shaft failure that could cause significant damage to the motor and injury or death to bystanders, and would be deemed as non-warranty by Marathon Electric.**

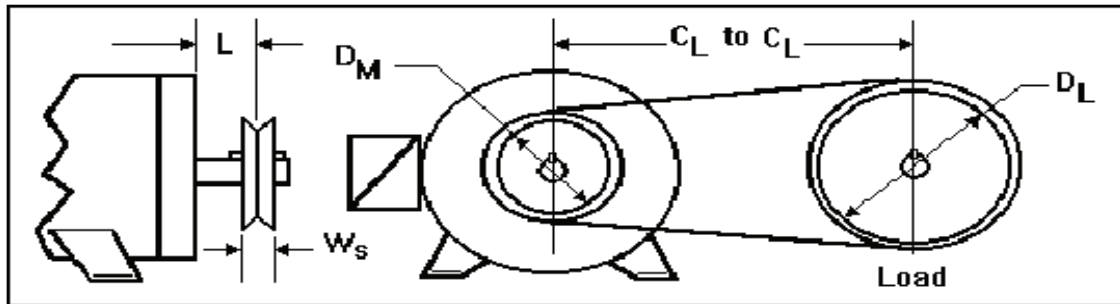
To: _____
 Company: _____
 Note: _____

From: _____
 Return to: _____

Belting & Chain Drive Data Submittal Form

Inquiry # _____
 Senders Name: _____
 Application: _____
 Motor H.P. _____ RPM _____

Customer: _____
 Project: _____
 (crusher, chipper, conveyor, spindle, etc.)
 Reference Model # _____



Dm (pitch diameter of motor sheave/sprocket) = _____ inches or _____ mm
 Dl (pitch diameter of driven sheave/sprocket at load side) _____ inches or _____ mm
 L (motor face to center of sheave/sprocket) = _____ inches or _____ mm

NOTE: Minimize L to reduce shaft stress and increase bearing life

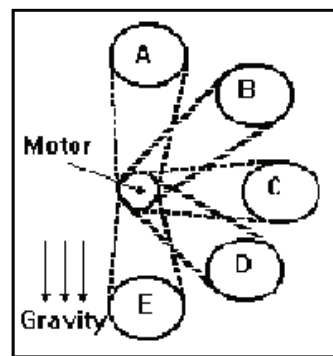
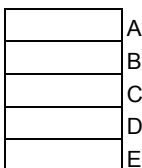
Ws (width of motor sheave/sprocket) = _____ inches or _____ mm
 Weight of motor sheave (or sheave & bushing) _____ lbs
 CL to CL (center of motor sheave/sprocket to center of load sheave/sprocket) _____ inches or _____ mm

Required bearing life _____ hours

Number of belts/chains on motor sheave/sprocket _____
Belt/chain length & type _____
Motor is mounted _____ horizontal
 _____ vertical shaft up
 _____ vertical shaft down

Mfr: _____

Direction of pull for horizontal motors (see figure to right):



For chain & synchronous belt applications only
 Number of teeth on motor sprocket _____
 Number of teeth on load sprocket _____

Other Data: _____

